

## **Title: Planning a Field Day**

### **Link to Outcomes:**

- **Problem Solving**      Students will investigate a meaningful problem, individually and in cooperative groups, while using appropriate technology.
- **Communication**      Students will gather information from the real world and present the results in written, oral, and visual formats.
- **Reasoning**      Students will make predictions, gather information, and reflect upon the outcomes.
- **Connections**      Students will apply their understanding of mathematical concepts and skills to plan and schedule events for a field day.
- **Concepts of Whole Number Operations**      Students will use their understanding of addition and subtraction to determine which operation is needed to solve the problem.
- **Whole Number Computation**      Students will solve addition, subtraction and multiplication problems, using calculators when appropriate.
- **Statistics & Probability**      Students will collect, organize and describe data in a readable manner.

### **Brief Overview:**

The activities in this lesson will expose students to a practical application of gathering data, developing and interpreting a graph, and measuring elapsed time through the planning and scheduling of events for a grade level field day. Students will work independently, cooperatively in small groups, and as a whole class during this learning unit.

### **Grade/Level:**

Grades 3-5.

### **Duration/Length:**

This unit takes four to five 45-minute periods over as many days, not including the actual running of the field day.

### **Prerequisite Knowledge:**

Students should:

- be able to read both digital and 12 hour analog clocks using 5 minute intervals.
- be able to add and subtract time in hour, half hour and 10- minute intervals.
- be able to round up to the nearest 10.
- have a background knowledge of developing and interpreting bar graphs.

### **Objectives:**

Students will:

- use data collected in survey to construct a bar graph.
- communicate and reason mathematically as they engage in the process of solving the problem of developing a time schedule.
- demonstrate the ability to calculate the time needed for the event.
- demonstrate their understanding of elapsed time by calculating the ending time of the field day when given the starting time.

### **Materials/Resources/Printed Materials:**

- Class lists for your grade level
- Self adhesive note papers (2" x 1 ½ " ), one per child
- Graph paper (1cm), two sheets per child
- Analog clocks that can be manipulated by students

### **Development/Procedures:**

- Brainstorm events that could be included (based on availability of equipment) in a grade level field day. Develop a class survey to find the most popular events.
- Organize the class so that each student interviews one other student in each of the grade level classes in the school.
- - A. Allow students a 2-day time frame to survey students. Gather data and develop a class graph.
  - B. Hand out enough note papers so children can record each survey response.
  - C. Instruct students to place note papers next to the surveyed events listed on the board, making sure all note papers are visible and not overlapping.
- Interpret the information on the board to determine the top events. Determine how many events to hold at the event.

- Have students create individual bar graphs using the data displayed on the blackboard. They may work in pairs or small groups. Require them to explain in a paragraph how the survey data was gathered, recorded, and interpreted.

### **Evaluation:**

- Circulate around the room while the students work, checking their procedures and results.
- Assess student understanding of making and interpreting bar graphs based on their performance of the bar graph activity.
- Evaluate student understanding of elapsed time by having students work as partners or individually on SATURDAY MORNING worksheet (copy attached).

### **Extension/Follow Up:**

- Establish cooperative groups so that information can be organized and developed into a timetable for the field day. Tell them the starting time of the field day and to allow 15 minutes for each event. Guide their thinking with the following questions: *Do you want water breaks? If so, how often and how long should they be? How much time will you need to go from event to event?*
- Allow students to present their timetables to the class. Presentations should include a visual showing the conclusions on time, space, and equipment needed, and other important information.
- Using the information presented, have the class calculate the amount of time needed to run everything, including time spent traveling from one event to another. Brainstorm ways to equalize the time spent at each event for example, a water break, running the event twice, or any other creative quick activity.
- Have the class decide on one or a combination of several time tables, then use the schedule of events to actually run a field day. Determine expenses if prizes are offered and refreshments are served. Afterward, compare the actual amount of time used during the field day to what they had planned for. Using this information, they can write suggestions for future field days.

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## **SATURDAY MORNING**

Your Saturday morning will be very busy with chores and activities. You want to go bowling at 11:30 A.M. Make a plan to find out if you will be able to get finished with all your chores and activities by 11:30 A.M. if you start at 9:30 A.M.

Below is the list of chores and activities you need to do and the time they will take you:

<b>cleaning your room</b>	= 30 MINUTES
<b>babysitting your sister</b>	= 45 MINUTES
<b>working on school project</b>	= 20 MINUTES
<b>walking your dog</b>	= 13 MINUTES

IN THE SPACE BELOW, USING NUMBERS AND WORDS, RECORD HOW YOU GOT YOUR ANSWER.